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1 Comparison of access methods for time-evolving data

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Betty Salzberg, Vassilis J. Tsotras
June 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 2
Publisher: ACM Press

Full text available: 📄 pdf(529.53 KB)   Additional Information: full citation, abstract, references, citings, index terms

This paper compares different indexing techniques proposed for supporting efficient access to temporal data. The comparison is based on a collection of important performance criteria, including the space consumed, update processing, and query time for representative queries. The comparison is based on worst-case analysis, hence no assumptions on data distribution or query frequencies are made. When a number of methods have the same asymptotic worst-case behavior, features in the methods tha ...

Keywords: I/O performance, access methods, structures, temporal databases

2 A structural view of the Cedar programming environment

▬

Daniel C. Swinehart, Polle T. Zellweger, Richard J. Beach, Robert B. Hagmann
August 1986 **ACM Transactions on Programming Languages and Systems (TOPLAS)**, Volume 8 Issue 4
Publisher: ACM Press

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This paper presents an overview of the Cedar programming environment, focusing on its overall structure—that is, the major components of Cedar and the way they are organized. Cedar supports the development of programs written in a single programming language, also called Cedar. Its primary purpose is to increase the productivity of programmers whose activities include experimental programming and the development of prototype software systems for a high-performance personal computer. T ...

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Comparison of access methods for time-evolving data

Authors   Betty Salzberg   Northeastern Univ., Boston, MA
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↑ ABSTRACT

This paper compares different indexing techniques proposed for supporting efficient access to temporal data. The comparison is based on a collection of important performance criteria, including the space consumed, update processing, and query time for representative queries. The comparison is based on worst-case analysis, hence no assumptions on data distribution or query frequencies are made. When a number of methods have the same asymptotic worst-case behavior, features in the methods that affect average case behavior are discussed. Additional criteria examined are the pagination of an index, the ability to cluster related data together, and the ability to efficiently separate old from current data (so that larger archival storage media such as write-once optical disks can be used). The purpose of the paper is to identify the difficult problems in accessing temporal data and describe how the different methods aim to solve them. A general lower bound for answering basic temporal queries is also introduced.

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↑ **INDEX TERMS**

Primary Classification:
  H. Information Systems
  ↳ **H.3** INFORMATION STORAGE AND RETRIEVAL
    ↳ **H.3.1** Content Analysis and Indexing
      ↳ **Subjects:** Indexing methods

Additional Classification:
H. Information Systems
  ↳ **H.2** DATABASE MANAGEMENT
    ↳ **H.2.2** Physical Design
      ↳ **Subjects:** Access methods

General Terms:
Management, Performance

Keywords:
I/O performance, access methods, structures, temporal databases

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